

REMARKS/ARGUMENTS

Claims 11-24 remain active in the case. Reconsideration is respectfully requested.

The present invention relates to a chewing gum formulation which contains a biodegradable polyester gum base.

Claim Rejection, 35 USC 103

Claim 11-24 stand rejected based on 35 USC 103(a) as obvious over Warzelhan et al, U.S. Patent 6,046,248 in view of Grijpma et al, U.S. Patent 5,672,367. This ground of rejection is respectfully traversed.

While it is clear that the '248 patent discloses a biodegradable polymer material that is formed from a polyether ester, as described in column 1 and Claim 1, for instance the biodegradable material is formed by the reaction of a polyether ester (P1) (component (a1)) with a divinyl ether (C1) (component (a2)) and a compound (D) (component (a3)). In the case of Claim 1 a foamed biodegradable polyether ester (Q1) is formed from the same three components. The reactant (D) is selected from a group of compounds that contain from three to ten functional groups and are the likes of tartaric acid, citric acid, malic acid, trimethylolpropane, trimethylolethane, pentaerythritol, polyethertriols, glycerol, trimesic acid, trimellitic acid or anhydride, pyromellitic acid or dianhydride and hydroxyisophthalic acid. Reactant (D) introduces the possibility of cross-linking of polymer chains. It is noted that the Examiner does not appear to have observed the polyester based material as discussed above is the claimed product of the invention from which all sorts of biodegradable products can be made including the likes of diapers, bed sheets, baby pants and the like (see column 12, lines 25-30). The present invention, on the other hand, does not describe or claim such a material.

The patent discloses that the polyether ester (P1) (component (a1)) is formed by reacting a mixture of (b1) a mixture of 20-95 mol % of adipic acid or ester forming derivative

thereof, 5-80 mol % of terephthalic acid or ester forming derivative thereof, and 0-5 mol % of a compound that contains sulfonate groups, (b2) a mixture of dihydroxy compounds (b21) of 15 to 99.8 mol % of a dihydroxy compound such as an alkanediol or cycloalkanediol and (b2) from 85 to 0.2 mol % of a dihydroxy compound that contains ether functionality. It is at this point of the disclosure of the patent that some similarity exists to the present claims where at least one amorphous polyester is formed by the reaction of at least one aromatic dicarboxylic acid, at least one aliphatic dicarboxylic acid, and at least one aliphatic diol which has at least one branching point, a saturated cyclic partial structure and/or at least one ether group.

However, the product of reaction of component (b1) with component (b2), as a mixture of sub-components (b21) and (b22), is the polyether ester from which the biodegradable products of the patent are formed. Accordingly, it is clear that the patent does not show or suggest a chewing gum formulation which is based on at least one amorphous polyester as now claimed.

The Examiner in paragraph 6 of the Office Action mentions that *the biodegradable polymer may be made without any toxic compounds for use in the food industry*. Applicants submit that the paragraph at the bottom of column 5 of the '248 patent, on the other hand, relates to only the possible use of the biodegradable polymer in the packaging sector of which the food "sector" is a type. Thus, the disclosed utility is initially a means of packaging most any article of manufacture. More specifically, if used in the food sector (note: direct contact with food is not mentioned), a precaution is taken of reducing the content of what may be considered toxic metals in the food packaging material.

Claims 22 and 24 are believed by applicants to be clearly distinguished over Warzelhan et al, because the "consisting essentially of" language that is used precludes reaction components polyether ester (P1) (component (a1)), a divinyl ether (C1) (component (a2)) and a compound (D) (component (a3)) from which the biodegradable polymer of the

reference is formed. Accordingly, these two claims are believed to be distinguished over the Warzelhan et al patent.

The deficiencies of the Warzelhan et al patent are believed to be neither overcome nor improved upon by the Grijpma et al patent. The patent, as stated previously, is germane to the present invention only insofar as it discloses a polyester resin material or polyester material that is useful as a chewing gum base. However, in the event the polyester material is selected, the patent only discloses a polymer product that is prepared by the ring opening polymerization of a cyclic ester such as a lactide, a glycolide, trimethylene carbonate, δ -valerolactone, β -propiolactone and ϵ -caprolactone. The resulting polyester is structurally unlike the polyester of the present claims which is formed by the reaction of a mixture of aliphatic diacids and aromatic diacids with at least one aliphatic diol.

The Examiner states that if one of skill were to substitute the polyether ester of the Warzelhan et al patent with the polyester material disclosed by Grijpma et al, one would arrive at the present invention as claimed. However, applicants submit that no motivation is provided by either reference to substitute the intermediate polyether ester disclosed by Warzelhan et al for the polyester of Grijpma et al in order to formulate a base for a chewing gum. The Warzelhan et al patent constrains one of skill in the art to use the polyether ester as a reaction component along with divinyl ether and a high functional group content reactant to form a biodegradable polymer. This is not the present invention. Withdrawal of the rejection is respectfully requested.

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Reply to the Office Action dated March 5, 2009

It is believed that the application is in proper condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

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